## **Electronic Supplementary Information**

## Memory characteristics of organic field-effect memory transistors modulated by nano-p-n junctions

Wei-Yang Chou, <sup>\*a</sup> Sheng-Kuang Peng,<sup>a</sup> Fu-Chiao Wu,<sup>a</sup> Hwo-Shuenn Sheu,<sup>b</sup> Yu-Fu Wang,<sup>a</sup> Po-Kang Huang<sup>a</sup> and Horng-Long Cheng<sup>a</sup>

- <sup>a</sup> Department of Photonics, Advanced Optoelectronic Technology Center, National Cheng Kung University, Tainan 701, Taiwan.
- <sup>b</sup> National Synchrotron Radiation Research Center, Hsinchu 300, Taiwan.
- \* Email of Corresponding author: weiyang@mail.ncku.edu.tw

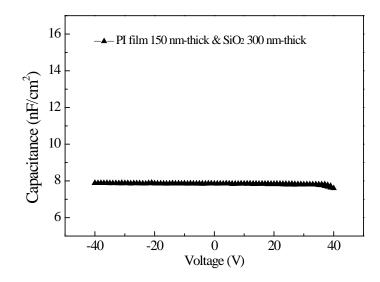


Fig. S1 The capacitances of PI/SiO<sub>2</sub>/Si gate dielectrics measured at frequencies of 1 kHz.

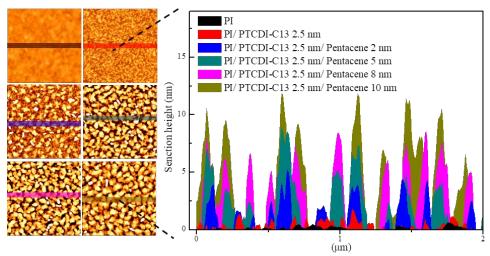


Fig. S2 The AFM images (left column) and related cross-section analyses (right column) of the pentacene films deposited onto PI/submonolayer PTCDI-C13.